PROGRESS

OF

MEDICAL SCIENCE

MEDICINE

UNDER THE CHARGE OF

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A Contribution to the Functional Diagnosis of Renal Disease.—B. Griessmann (*Deutsch. Arch. f. klin. Med.*, 1914, cxiv, 32) has made exact studies of the excretion of water, sodium chloride and nitrogen in a small series (five) of nephritics. The patients were placed on a diet of rice, condensed milk, and raspberry juice. The diet was analyzed for its content in the above mentioned constituents and the patients were kept on it until they had reached a state of equilibrium. Each experiment was divided into four periods: (1) The preliminary period in which the patient was kept on a milk or milk-rice diet until there was equilibrium in nitrogen, sodium chloride, and water. (2) During the second period, the patient received the standard diet plus 20 grms. of sodium chloride. The additional salt dissolved in 400 c.c. of water was given only on the first day of this period. (3) In the third period, one or two liters of water were added to the standard diet. The extra water was also given only on the first day of the period. (4) In the fourth period, the patient received the standard diet plus 20 grms. of urea dissolved in 250 c.c. of water given on the first day. Two of the patients had markedly contracted sclerotic kidneys, as autopsy proved. Two suffered from arteriosclerotic renal changes, while the fifth had chronic glomerulo-nephritis. The changes in water excretion were the least noticeable. Defect in the excretion of sodium chloride was found in all of the cases, being especially marked in one of the cases of interstitial nephritis. In the other cases there was a moderate delay in excretion. The urea excretion was studied in only three cases. A marked delay was noted in one of these also, a patient with contracted kidney. The experiments show, Griessmann says, that as a rule disturbances in excretion of sodium chloride and nitrogen are combined.

Nevertheless, there are cases in which the disturbance of function chiefly affects only the salt or the urea. Thus the classification of renal diseases on the basis of excretion of salt and urea (Widal, Müller) seems justifiable.

Factors Concerning the Coagulation of Blood.—CANNON, MENDENHALL and GRAY (*Amer. Jour. Physiol.*, 1914, xxxiv, 225) have devised a graphic method for the study of blood coagulation. The instrument consists of a light aluminum lever with a long arm, on the end of which is a writing pen which moves over a smoked drum. On the shorter arm there is placed a piece of fine copper wire 8 cm. in length. This wire extends into a cannula. In all the experiments a constant temperature of 25° C. was maintained, and cannulæ of the same size were always used. This insured the taking of the same amounts of blood. They were able to show that the intravenous injections of small doses of adrenalin, or subcutaneous doses of larger size, given to cats, shortened the coagulation time from one-third to one-half the normal. Larger doses (0.3 mg. per kilo) given intravenously, first slowed and then hastened blood coagulation. The effect upon coagulation is not dependent upon synchronous changes in the arterial blood-pressure. After the removal of the liver or intestines, adrenalin in small doses causes no hastening of coagulation, even when added to the withdrawn blood. These experiments were made in an attempt to explain the hypothesis that the liver or intestines, or both, are aroused by adrenalin to greater activity, as a result of which one or more of the factors concerned in coagulation are released. Stimulation of the splanchnics in anesthetized cats accelerates the coagulation time very promptly. The effect wears off in from ten to thirty minutes, and is less marked when the experiment is repeated. If the adrenal gland on the side of stimulation is first removed, no acceleration of coagulation was observed. Hence the assumption that the hastening is due to the release of some component of the adrenal gland. In a similar way, the irritation of large nerve trunks, or a large operation performed under light anesthesia, gives a marked increase in the rapidity of coagulation. States of emotion cause the same in less than one-half minute. Cannon, Mendenhall and Gray, assume that in states of pain or emotion the increased rapidity of the coagulation time is the result of an increased output of adrenalin.

Blood Findings in Some Psychoses.—ITTEN (*Zeit. f. d. ges. Neurol. u. Psychiatr.*, 1914, xxiv, 341) has made careful blood studies in 140 cases of schizophrenia, 20 epileptics, 10 idiots, and 5 cases of chorea. The studies included morphological examinations; estimation of the coagulation time according to Burker's method; the resistance of the red-blood cells, and the determination of the specific gravity according to Hammerschlag's technique. The results of his findings are as follows: In schizophrenia the red-blood cells are found much increased, especially in states of catatonia and stupor, probably due to vasomotor disturbances. The white cells show slight increases, particularly in acute cases and chronic hebephrenics. Neutrophile leukocytes are the ones increased, but with the subsidence of acute symptoms there is a tendency for the development of a lymphocytosis. This continues